

Political Hierarchy, Economic Inequality & the First Southwest Asian Farmers

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Abstract

The property rights ideally suited for farming differed from those that were well adapted to mobile hunting and gathering, raising the question: How did this new institution emerge in the places where farming was first practiced? I survey the current archaeological evidence on the political, social, and economic institutions of the first populations that adopted farming in southwest Asia. While collective decision making was evidently practiced (as it is in foraging populations), there is little evidence consistent with the conjecture that the imposition and then enforcement of a new system of property rights was carried out by an extractive political elite.

Keywords: Holocene, Pleistocene, burial practices, farming, states.

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Summary

Were the first farmers in southwestern Asia forced by extractive political elites to abandon foraging and to take up sedentary living and food production?

There is historical evidence, though from a much later period and a different part of the world, that state elites have attempted to impose cultivation of cereals and other readily taxable crops on erstwhile foragers or on horticulturalists cultivating root crops(Scott (2009)).

Moreover, in light of recent archaeological research it also seems likely that in southwest Asia (and some other locations) institutional and cultural changes associated with sedentism preceded and facilitated the emergence of farming (Watkins (2010), Willcox and Storedeur (2012), Smith (2012), Kuijt and Finlayson (2009), Bowles and Choi (2015), Acemoglu and Robinson (2009)). These social innovations probably included an enhanced domain of private property rights to cover dwellings and possibly some inter mural stores.

Evidence from ethnographic hunter-gatherers as well as archaeological evidence suggests that political institutions for collective decision-making (e.g. about movements, defense and predation, acquiring food) and enforcement of norms (e.g. concerning food sharing and sexual mores) existed in late Pleistocene and early Holocene populations, including those that independently adopted the Holocene package of farming and private property. Pre farming communities clearly had structures that allowed collective decision making.

But there is little archaeological evidence that communities that were to become the first farmers were the result of forced settlement at the hands of extractive elite, or that that private property rights in dwellings and stores were the result of elite imposition and enforcement. Data available to date do not include evidence for the existence of such elites, as would be provided for example by large and lavishly constructed residences in association with public buildings and spaces. Also for the most part absent are the kinds of opulent burials including children found elsewhere at even earlier dates, consistent with the substantial wealth inequalities that would be associated with the dominance of a hereditary extractive elite (Pettit and Bader (2000).)

Of course much of what we think we know about social institutions during the early Holocene is necessarily a matter of indirect inference, conjecture and debate, and will (one hopes) be improved upon by ongoing research that may overturn the interpretation of the evidence that I offer below.

Timing

Because we are interested in hypotheses concerning changes in social structure prior to the advent of cultivation we need to establish when that occurred. The challenge here is that dating domestication of plants is considerably easier than dating cultivation, the phenomenon of interest. While intensive gathering of wild cereals by sedentary Natufian populations occurred immediately following the end of the last glacial period (c14,700 to c12,700 BP), domestication probably does not predate 11,500 before the present (BP) anywhere in the world (Price and Bar Yosef (2011)). Cultivation must have preceded domestication, possibly by many centuries. However, counter to earlier interpretations (Hillman, Hedges, Moore, et al. (2001)) it now appears that the first cultivation at the northern Natufian site of Abu Hureyra (once thought to be the earliest) probably did not occur until the beginning of the Holocene (Colledge and Conolly (2010)).

Bar Yosef (2011) dates the “first farmers” as occurring with the “climate amelioration” at the beginning of the Holocene around 11,700-11,500 BP following the end of the colder and dryer Younger Dryas.. Willcox (2012):166 does not entirely exclude the possibility of an earlier date: “The frequencies [of arable weeds, an indicator of cultivation] at the Natufian sites of Abu Hureyra and Dederiyeh are low but nevertheless present. Because of this we should not totally discount the possibility of cultivation at Natufian sites.” Evidence from other southwestern Asia sites (Mureybet, e.g.) is also consistent with a post Younger Dryas dating for the first cultivation (Cauvin and Ibanez Estevez (2008)). Thus to evaluate the evidence of political hierarchy and economic inequality prior to farming in southwestern Asia we focus on Natufian sites prior to 14,700 BP.

Evidence on economic inequality

Because mortuary practices leave archaeological traces and often reveal striking differences in wealth and social status, most of the evidence concerning economic inequality among Natufians is based on data from burials, some of which were decorated in ways differing across sites. Byrd and Monahan (1995), Kuijt (1996), and Belfer-Cohen (1995) have studied this evidence. Contrary to earlier work based on incomplete evidence, Belfer-Cohen (1995):16 writes “Evidence for social stratification in the Natufian inferred from the decorated burials is ... non-existent.” The grave goods in the earlier period were almost entirely personal ornaments which increased in use during the later Natufian period but, as she shows, virtually disappeared from burials.

Byrd and Monahan (1995):280 focus on early Natufian evidence “since later Natufian burials are characterized by a virtual absence of mortuary elaboration (particularly with respect to grave goods and construction techniques).” They conclude that “there is no strong mortuary evidence

for hereditary social inequality in the Natufian.’ (p. 251). Their summary (p. 280) is worth citing at length:

There is no burial evidence for ranked group status ...or for a chiefdom with hereditary elites. ..If there was mortuary evidence for a ranked society then we would expect that certain spatially clustered kin group graves would have either significantly higher frequencies of more elaborately constructed graves or more individuals interred with grave goods, or at least some individuals with an order of magnitude more grave goods, and that some of the markings would cut cross all sex and age categories within this group. Since such mortuary patterns are absent we assert that there is no data to support previous interpretations of ascribed status during the early Natufian.

While alike in finding no evidence for systematic wealth differences among Natufians, Byrd and Monahan (1995) and Kuijt (1996) offer distinct (but possibly complementary) interpretations of what their mortuary practices may suggest about Natufian social structure.

Kuijt (1996):332 proposes that late Natufian mortuary practices were part of “a system of social codes for limiting the development and centralization of power and authority..” and that later mortuary and architectural evidence (from c. 11,500 BP to c.9,500) “indicates that social codes were expanded and increasingly standardized within the Levantine region to reinforce a shared community ethos and limit the development of social inequality.” He writes (p.331) that this “egalitarian” and solidaristic late Natufian and early Holocene ‘belief system was materially expressed through 1) the control and restriction of the display of material differences (lack of grave goods, homogeneous grave construction and individual burials) and/or 2) the development of mortuary rituals that emphasize a community of identity and a shared ancestor (cranial removal, secondary mortuary practices.)”

Byrd and Monahan (1995) suggest that Natufian mortuary practices may reflect the emergence of new concepts of ownership. Burials below the floors of dwellings suggest family ownership of homes prior to farming during the Natufian and much earlier (15,750 BP, Bar Yosef and Arensburg (1973) also, Muheisen (1988). But some evidence, e.g. from Catalhoyuk in Anatolia, suggests limited biological relatedness among those buried under a given dwelling. Pilloud and Larsen (2011)).

The differentiation among Natufian burial practices from one cemetery to another is attributed to differentiation among kin groups but “there is no evidence to indicate that any of these kin groups had significantly greater wealth or status.” (p.251). They suggest that

...the need to legitimate residential rights at base camps and access to pivotal local wild resources ... may have been a key factor in the emergence of early Natufian

mortuary behavior of spatially segregating kin group burials. Each of these groups may have been legitimizing their rights to the area and its resources and one's affiliation with a particular group. 283

And like Kuijt, they see “a continuity [in the Late Natufian] with subsequent early Neolithic mortuary practices” but distinct from Kuijt’s suggestion, the continuity is “with their emphasis on ownership, inheritance, descent, family units and burials associated with buildings.” (p. 283)

Perhaps the most extensively studied site is Abu Hureyra on the Euphrates (Moore, Hillman and Legge (2000)) where at least some evidence spans the entire period from initial settlement as a Natufian community of hunter gatherers to the adoption of the full Neolithic farming package. Consistent with the hypothesis (advanced in Bowles and Choi (2015)) that possession based private property rights emerged with sedentism, Moore and his co authors, like Byrd and Monahan, provide evidence of burials under the floors of dwellings. They write that “the houses were family dwellings...a family could lay claim to the space its house occupied...and its descendents could build a new house on the same spot in which to live... family rights to private property were firmly established in Abu Hureyra 2 [9,400-7,000 BP].

This evidence comes from well into the Neolithic, when Abu Hureyra was already a farming community, but as the following passage indicates, it is consistent with the view that the advent of both cultivation and private property did not entail significant economic and political differences among the resident families.

“The similarity in the houses across the site and the lack of differentiation between the burials of each sex suggest that in material terms the villages were of similar status. .. Abu Hureyra 2 seems to have been an egalitarian community. ..” (p. 505)
“There was no indication from the burials that they had developed a social system based on a hierarchy of classes that was maintained from one generation to the next. Abu Hureyra, then, was an unusually large, early Neolithic village. It had not developed all of the characteristics, for example, substantial public buildings, a social hierarchy, and large scale trade, that we associate with the towns of early historic times in Southwest Asia.” (p. 495)

Evidence on political hierarchy and inequality

To start with something uncontroversial, the independent emergence of farming predated the formation of states in either the standard Weberian sense (an entity with a monopoly on the legitimate use of violence in a territory) or the usage favored by many archaeologists (due to Henry Wright, namely, a political hierarchy with multiple layers of authority.)

Table 1. Regions and dates of early domestications and early states or proto-states

<i>Region (contemporary geographic designations)</i>	<i>First domestications before the present, in years BP (crop)</i>	<i>First state BP(name of earliest state or proto state in region)</i>
Southwest Asia	11,500 (Einkorn, emmer, barley)	5,500 (Late Uruk)
China	8,000 (Millet, rice)	4,300 (Erlitou)
Mexico	9,000 (Pepo squash)	2,400 (Teotihuacan)
Northern Peru	10,000 Arrowroot	2,200 (Moche)
Highland New Guinea	>7,000 (Yam, banana, taro)	European (Aust.) colonization
Sahel (West Africa)	5,000 (Sorghum, animals 9000)	1,500 (Ghana, possibly Tichitt)
India (Karnataka)	5,000 (Millet)	3,200 (evidence of elite burials)
Eastern United States	5,000 (Pepo squash, sunflower)	European colonization

NOTE. – Excepting those noted below, the approximate dates of the first named states are from Trigger (2003), p.32) with the defining characteristic that “central governments possessed ultimate control over justice and the use of force” (p. 47). The first domestications except Karnataka are from Price and Bar Yosef (2011)) (cultivation probably predated domestication by many centuries, or possibly much more). Dates for Ghana are from Holl (1985, Munson (1980)). Evidence for India is from Fuller (2006)).

Non state forms of political differentiation surely existed. A difficulty with the interpretation of the evidence concerning political hierarchy is that the (typically undefined) term social complexity is often considered to be evidenced by any significant deviation from the social organization of a mobile group of hunter gatherers (such as a division of labor among males or the construction of non residential structures). Moreover these indicators of what is termed “social complexity” are sometimes thought without further evidence to imply a wide range of conventional social complexity concomitants including pronounced economic inequalities and political hierarchy. Examples are Esin (1999) p.19, Hauptmann (1999) p. 82, and Rosenberg (1999) p.29.

Evidence for some kinds of collective decision making and possibly political differentiation is found in large scale communal storage facilities (Willcox and Storedeur (2012)), elaborate gazelle traps (Moore, Hillman and Legge (2000)) and non residential public buildings (Roux, Der Arahamian, Brenet et al. (2000)).

Bender (1978) is an important source for the hypothesis that extractive political elites imposed sedentism and introduced farming (though she does not suggest this). She writes:

There is evidence of exchange networks among gatherer-hunters and also of positions of authority. At Eynan in Israel, in a level with about fifty round huts and

many storage pits, there is a large, well plastered domestic building close to a cleared central place: probably the village chief's house (Flannery 1972b). And among the burials is a fine double inhumation in a carefully constructed grave (Perrot 1966). There are 'elite' goods - dentalia and obsidian - and evidence of a skull cult (the antecedent to similar cults at Jericho PPNA [c 10k to c9k BP], Abu Hureyra, Qatal Hiiyik) suggesting ancestor worship and some emphasis on descent.

The larger and well constructed domestic building close to a central space could be evidence of significant political hierarchy. The source for "probably the village chief's house" namely Flannery (1972):33 had written this about the "cleared central place": "they may *possibly* (Flannery's emphasis) have been arranged in a large circle around an open area; at least those illustrated can be construed as forming an arc." And about the "chief's house": "... an unusually large [hut] by analogy with the Tiv may ... have been used for receiving visitors; one atypically well made lime plastered hut may have belonged to the compound head. Storage pits occurred either inside or (more often) outside the huts."

The reference to the Tiv of Nigeria (Bohannon (1959)) is important as it makes it clear that this possible "compound head" was at most a "big man" similar to the New Guinea highlands *komongo*, and not at all resembling an extractive elite or even a chief. Flannery (in the same paper, p. 48) writes that "the compound is a real commune in which, as we have seen, storage facilities are shared openly" (apparently a reference to the extra mural storage). He then describes the Tiv "compound head" as follows: "the compound head prevents profit-taking by anyone wanting to plant more yams than he needs, or so many that his own planting and harvesting would prevent him from participation in communal labor for the compound. Disparities of land, wealth, and material goods between members of a compound are almost non-existent, and there are social institutions which prevent them from arising." However, Perrot (1966) who is Flannery's source on Eynan (Mallaha) refers to burials there suggesting some differences in wealth, and most likely inherited differences (but see the apparently conflicting account below). It appears that some communities but not others had modest wealth differences (see below).

Flannery stresses the importance of sedentary living and the emergence of inherited property in the emergence of private property:

Tentatively I suggest that the origins of 'sedentary life' had more to do with the installation and maintenance of permanent facilities, and the establishment and maintenance of hereditary ownership of limited areas of high resource potential than it did with agriculture per se. ... the decision to make cereal grasses the focal point of the subsistence strategy increased the need for permanent storage and processing

facilities. Such a decision could have been made before agriculture began in parts of the Near East... 28

Bar-Yosef and Belfer-Cohen (1992) in their account of Natufian social structure also make no mention of the role of political elites in the emergence of the village as a settlement pattern. About economic inequalities (of the type that might result from the extractive activities of an elite) they write: “ At Nahal Oren, the houses are almost all of the same size and clustered together resembling the Natufian settlement at Mallaha, while at Netiv Hagdud houses are clearly of different sizes and have larger open spaces between) them. However, much more published field evidence is required before any conclusions concerning the size and wealth of the various households can be reached.” (p.34)The paper concludes with this: “Systematic cultivation on a year to year basis, under favorable climatic conditions meant the creation of surplus. ... The growth of social power within the farming communities may have been an additional *consequence*...” (p.40, emphasis added).

But the Natufian sites, that is, prior to farming, provide little evidence for the emergence of either political hierarchy or economic inequality. . Byrd and Monahan (1995), whose research indicating the lack of evidence for class distinctions in Natufian burials we have mentioned above, write:

...there is an absence of other [than burial] archaeological evidence to support inferences of considerable social complexity, ascribed status and elites in the Natufian. There is no evidence for the emergence of asymmetric economics and elite accumulation of controlled wealth -- there are no larger buildings or buildings with more elaborate facilities and material culture that can be interpreted as the residence of elites. Nor is there evidence of extensive public architecture or construction that might have required hierarchical organization to mobilize labor 281.

Moore, Hillman and Legge (2000) note the likelihood of collective decision making (in organizing gazelle drives, for example, and later in allocating use rights in land) but they provide no evidence of a political elite playing any substantial role in the formation of the first settlement: “The first inhabitants organized themselves to secure ample supplies of food from their surroundings, and in so doing established one of the first sedentary villages in the world.” (p. 525). Another valuable source, Cauvin and Ibanez Estevez (2008) on the transition to farming at Tell Mureybet, discusses the possibility of hierarchical decision making based on evidence from the Khiamian stage (simultaneous with what is probably the first farming and 500 years *following* settlement); “The existence of this central building suggests the institutionalization of a type of authority, whether individual or collective, that would have reinforced the group’s cohesion and cultural dynamics.” (p.673) “This social complexity seems

to place an emphasis on group cohesion, community activities, and ritual. From this perspective, this society was egalitarian economically, but was beginning to develop institutionalized forms of authority.” (p.674)

The function of the often larger and apparently non-residential buildings at Mureybet and other sites is key to any interpretation of the social structure of Natufian communities. Roux, Der Aprahamian, Brenet, et al. (2000) refer to them as “communal” or “collective” buildings and “places for social meeting and/or for ritual. ... forerunners of the [somewhat later] sanctuaries of Anatolia.”(p.29) that “evoke, despite the distance in time and space, the *kivas* of the Pueblo Indians” (p.37) Echoing Roux and his co authors’ reference to *kivas*, Flannery and Marcus (2012) refer to the communal buildings at Göbekli Tepe and other Anatolian sites as “men’s houses” (p.138) or “ritual houses” (p.136) not dwellings of members of a political elite.

These substantial sedentary communities “could be formed and maintained without social hierarchies of power” as the archeologist Trevor Watkins (2010) put it, describing the Neolithic revolution throughout the Levant. “Ascribed status, social hierarchies and inequalities of power” would later follow, but did not precede the advent of farming and private property (Watkins, 2010).

Conclusion and conjectures

Given that the places where settlement took place is south western Asia (including Abu Hureyra, Mureybet, Eynan (Mallaha), and Göbekli Tepe were at the time exceptionally rich in plant and animal resources that could be harvested without mobility(Moore, Hillman and Legge (2000), Cauvin and Ibanez Estevez (2008), Hauptmann (1999)), it is difficult to see why settlement would have to be coerced. One even wonders how settlement could be coerced, given that all adult males were armed (there were no specialized armed groups). The same is true in other parts of the world. But suppose that the reverse were true: those who were settled had a lower standard of living than those who remained mobile or for some other reason preferred not to be settled there and would have preferred to return to foraging. It seems unlikely that a political elite could enforce settlement, when simply leaving (for example, not returning from a hunting or gathering trip away from the village) was an option

Less hierarchical and more consensus based political processes seem more likely to have been involved.

Evidence for community decision making (buildings with likely public non storage functions, large scale construction projects such as towers or gazelle traps) coupled with the lack of systematic evidence for substantial economic inequalities suggest that settlement and the associated transition to institutions that eventually favored farming (mutually respected private

property in stores and homes, for example) may have been facilitated by collective action of a relatively non hierarchical sort of the type commonly observed in hunter gatherer groups as a means of social norm enforcement (Boehm (2000), Wiessner (2005), Boyd, Gintis and Bowles (2010).)

Were this to have been the case in southwestern Asia it would provide mechanism of transition that could work in relatively large groups. In research with Jung-Kyoo Choi(Bowles and Choi (2015)) we have not modeled the process of transition *per se* and as a result by default we have represented the occurrence of novel behaviors sufficient to induce an institutional change as the result of random behavioral experimentation. In larger groups such as those that first took up farming in southwestern Asia and possibly coastal Peru(Dillehay, Bonavia and others (2012)) this stochastic process would be unlikely to promote a transition (because unless experimentation is pervasive, large group size militates against extreme realizations of the process, and hence would only rarely induce a transition).

But it has been proposed elsewhere that farming was introduced by mobile foragers whose groups would have been small enough to allow a purely stochastic process to induce behavioral transitions. Bettinger (2013) suggests that the emergence of private property in stores among California Native Americans was facilitated by a reduction in group size permitted by the introduction of the bow and arrow, though the groups he studied did not make a transition to farming. Small group size could have facilitated institutional transitions also in Karnataka (India) where farming is thought to have been independently introduced 5 thousand years ago by mobile groups of hunter gatherers (Fuller (2006).)

Works cited

- ACEMOGLU, D., and J. A. ROBINSON (2009): "Foundations of Societal Inequality," *Science*, 326, 678-679.
- BAR-YOSEF, O., and A. BELFER-COHEN (1992): "From Foraging to Farming in the Mediterranean Levant," in *Transitions to Agriculture in Prehistory*, ed. by A. B. Gebauer, and T. D. Price. Madison, Wisconsin: Prehistory Press.
- BAR YOSEF, O. (2011): "Climatic Fluctuations and Early Farming in West and East Asia," *Current Anthropology*, 52, S175-193.
- BAR YOSEF, O., and B. ARENSBURG (1973): "Human Remains from Ein Gev.I, Jordan Valley, Israel," *Paleorient*, 1, 201-206.
- BELFER-COHEN, A. (1995): "Rethinking Social Stratification in the Natufian Culture: The Evidence from Burials," in *In the Archaeology of Death in the Ancient Near East*, ed. by S. Campbell, and A. Green. Oxford: Oxbow Monographs, 9-16.
- BENDER, B. (1978): "Gatherer-Hunter to Farmer: A Social Perspective," *World Archaeology*, 10, 204-222.
- BETTINGER, R. L. (2013): *Evolution of Society in Aboriginal California: The Rise of Orderly Anarchy*. Unpublished manuscript.
- BOEHM, C. (2000): *Hierarchy in the Forest*. Cambridge: Harvard University Press.
- BOHANNAN, P. (1959): "The Impact of Money on an African Subsistence Economy," *Journal of Economic History*, 19, 491-503.
- BOWLES, S., and J.-K. CHOI (2015): "The Neolithic Agricultural Revolution."
- BOYD, R., H. GINTIS, and S. BOWLES (2010): "Coordinated Punishment of Defectors Sustains Cooperation and Can Proliferate When Rare," *Science*, 328, 617-620.
- BYRD, B., and C. MONAHAN (1995): "Death, Mortuary Ritual and Natufian Social Structure," *Journal of Anthropological Archaeology*, 14, 251-287.
- CAUVIN, J., and J. J. IBANEZ ESTEVEZ (2008): *La Site Neolithique De Tell Mureybet (Syrie Du Nord): En Hommage a Jacques Cauvin*. Lyon: Maison de l'Orient et de la Méditerranée Jean Pouilloux.
- COLLEDGE, S., and J. CONOLLY (2010): "Reassessing the Evidence for the Cultivation of Wild Crops During the Younger Dryas at Tell Abu Hureyra, Syria," *Environmental Archaeology*, 15, 124-138.
- DILLEHAY, T. D., D. BONAVIA, and OTHERS (2012): "Chronology, Mound-Building and Environment at Huaca Prieta, Coastal Peru, from 13,700 to 4000 Years Ago," *Antiquity*, 86, 48-70.
- ESIN, U. (1999): "The Neolithic in Turkey: A General Review," in *Neolithic in Turkey: The Cradle of Civilization*, ed. by M. Ozdogan, and N. Basgelen. Istanbul: Arkeoloji ve Sanat Yayınları, 13-23.

- FLANNERY, K., and J. MARCUS (2012): *The Creation of Inequality: How Our Prehistoric Ancestors Set the Stage for Monarchy, Slavery, and Empire*. Cambridge: Harvard University Press.
- FLANNERY, K. V. (1972): "The Origins of the Village as a Settlement Type in Mesoamerica and the near East: A Comparative Study," in *Man, Settlement and Urbanism*, ed. by P. Ucko, R. Tringham, and G. W. Dimbleby. London: Duckworth, 23-54.
- FULLER, D. (2006): "Agricultural Origins and Frontiers in South Asia," *Journal of World Prehistory*, 20, 1-86.
- HAUPTMANN, H. (1999): "The Urfa Region," in *Neolithic in Turkey: The Cradle of Civilization*, ed. by M. Ozdogan, and N. Basgelen. Istanbul: Arkeoloji ve Sanat Yayinlari, 65-86.
- HILLMAN, G., R. HEDGES, A. MOORE, S. COLLEDGE, and P. PETTITT (2001): "New Evidence for Lateglacial Cereal Cultivation at Abu Hureyra on the Euphrates," *The Holocene*, 11, 383-393.
- HOLL, A. (1985): "Background to the Ghana Empire: Archaeological Investigations on the Transition to Statehood in the Dhar Tichitt Region " *Journal of Anthropological Archaeology*, 4, 73-115.
- KUIJT, I. (1996): "Negotiating Equality through Ritual: A Consideration of Late Natufian and Perpotery Neolithic a Period Mortuary Practices," *Journal of Anthropological Archaeology*, 15, 313-336.
- KUIJT, I., and B. FINLAYSON (2009): "Evidence for Food Storage and Predomestication Granaries 11,000 Years Ago in the Jordan Valley," *PNAS*, 106, 10966-10970.
- MOORE, A. M. T., G. C. HILLMAN, and A. J. LEGGE (2000): *Village on the Euphrates: From Foraging to Farming at Abu Hureyra*. New York: Oxford University Press.
- MUHEISEN, M. (1988): "The Epipaleolithic Phases of Karaneh Iv," in *The Prehistory of Jordan*, ed. by A. N. Gerrard, and H. G. Gebel. Oxford: BAR lternational Series 396, 353-367.
- MUNSON, P. (1980): "Archaeology and the Prehistoric Origins of the Ghana Empire," *Journal of African History*, 21, 457-466.
- PERROT, J. (1966): "Le Gisement Natufien De Mallaha (Eynan) Israel," *L'Anthropologie*, 70, 437-484.
- PETTIT, P. B., and N. O. BADER (2000): "Direct Ams Radiocarbon Dates for the Sungir Mid Upper Palaeolithic Burials," *Antiquity*, 74, 269-270.
- PILLOUD, M., and C. S. LARSEN (2011): ""Official" and "Practical" Kin: Inferring Social and Community Structure from Dental Phenotype at Neolithic Catalhoyuk, Turkey," *American Journal of Physical Anthropology*, 145, 519-530.
- PRICE, T. D., and O. BAR YOSEF (2011): "The Origins of Agriculture: New Data, New Ideas," *Curent Anthropology*, 52, S163-S174.
- ROSENBERG, M. (1999): "Hallan Cemi," in *Neolithic in Turkey: The Cradle of Civilization*, ed. by M. Ozdogan, and N. Basgelen. Istanbul: Arkeoloji ve Sanat Yayinlari, 25-33.

- ROUX, J. C., G. DER APRAHAMIAN, M. BRENET, and D. STORDEUR (2000): "Les Batiments Communautaires De Jerf El Ahmar E Mureybet," *Paleoorient*, 26, 29-44.
- SCOTT, J. (2009): *The Art of Not Being Governed: An Anarchist History of Upland South-East Asia*. New Haven: Yale.
- SMITH, B. (2012): "A Cultural Niche Construction Theory of Initial Domestication," *Biological Theory*, 6, 260-271.
- TRIGGER, B. (2003): *Understanding Early Civilizations*. Cambridge: Cambridge University Press.
- WATKINS, T. (2010): "New Light on Neolithic Revolution in South-West Asia," *Antiquity*, 84, 621-634.
- WIESSNER, P. (2005): "Norm Enforcement among the Ju/'Hoansi Bushmen: A Case of Strong Reciprocity?," *Human Nature*, 16, 115-145.
- WILLCOX, G. (2012): "Searching for the Origins of Arable Weeds in the near East," *Vegetation History and Archeobotany*, 21, 163-167.
- WILLCOX, G., and D. STORDEUR (2012): "Large Scale Cereal Processing before Domestication During the Tenth Millennium Cal Bc in Northern Syria," *Antiquity*, 86, 99-114.